What CLAMS Tells Us about the Ocean Albedo Measured at COVE

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evelopments at CERES Ocean Validation Experiment (COVE

. long term BSRN/AERONET/MFRSR measurements continu

. wind speed/dir temp/humidity measurements at 10m by end

. second SP1A spectral photometer (radiance) to be mounted

Wenying Su begins foam program

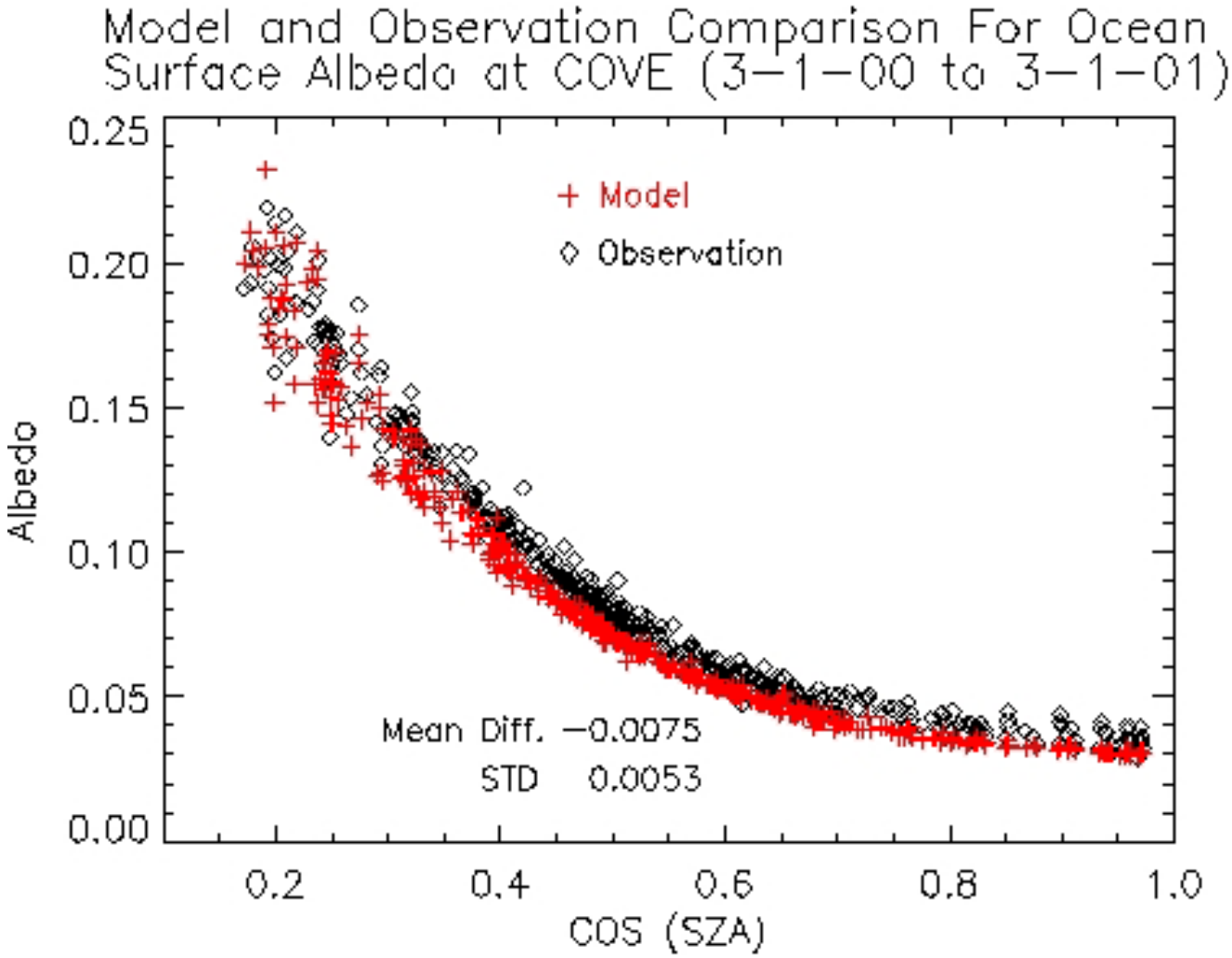
. ASD Field Spectoradiomter (SW flux) will be mounted lookin

. OV-10 broadband & spectral flux to cover high winds and clo

. NDBC considering deployment of wave direction sensor
(now have just wave height and period)

ww-cave.larc.nasa.gov/cave/ seek “Useful Links”

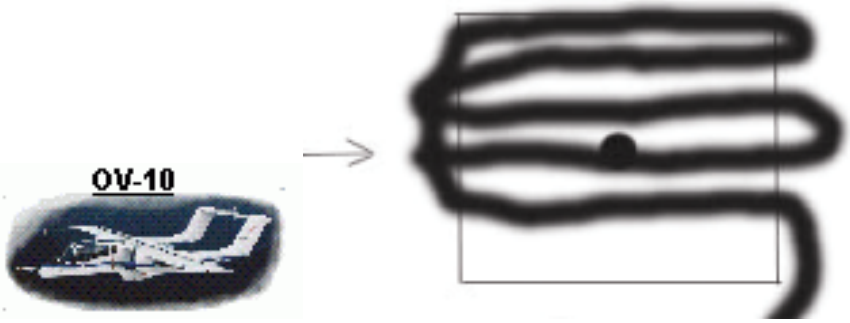
Jin and Stames coupled air-sea radiative transfer code generates look up tables for SARB ocean surface albedo (cosSZA, wind speed, AOT,chlorophyll).



CERES goal in CLAMS: Learn how well point measurements at COVE platform represent the broader ocean

Do the steel legs and shadow (see photo above) spoil observations at COVE?

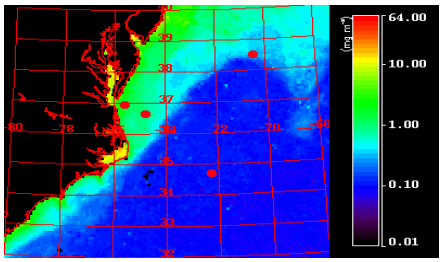
Solution: Fly radiometers on the OV-10 near COVE and find out.



2km X 4km flight pattern c
200m altitude

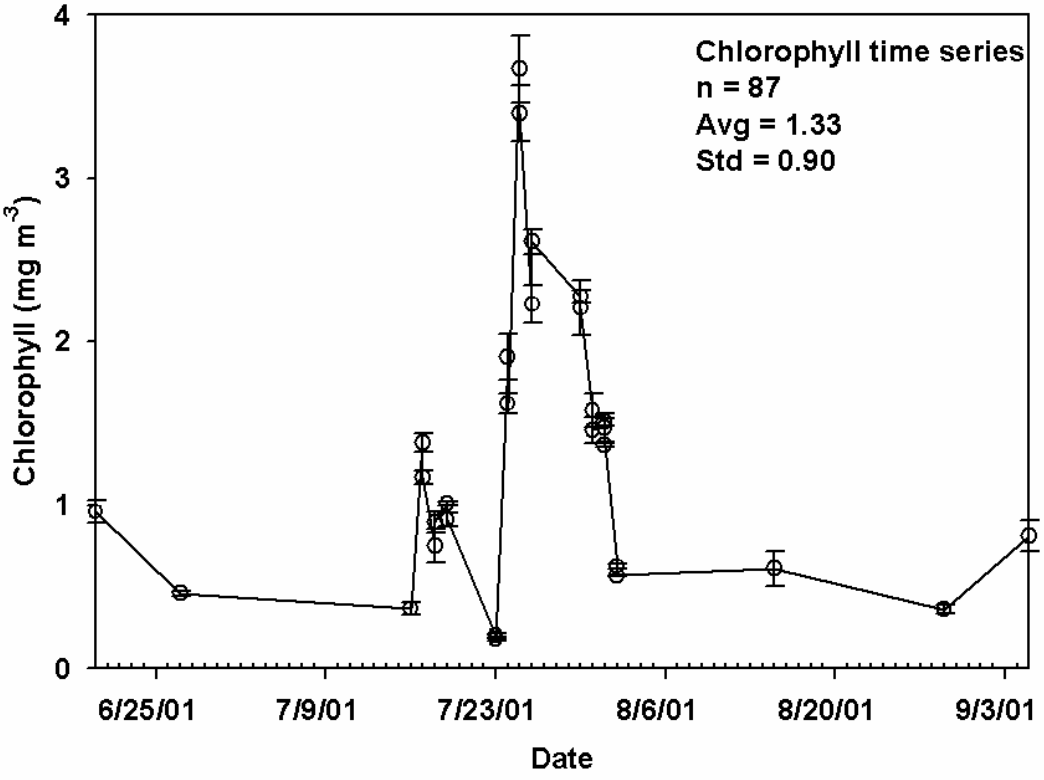
spectral + broadband inst
at COVE and on O

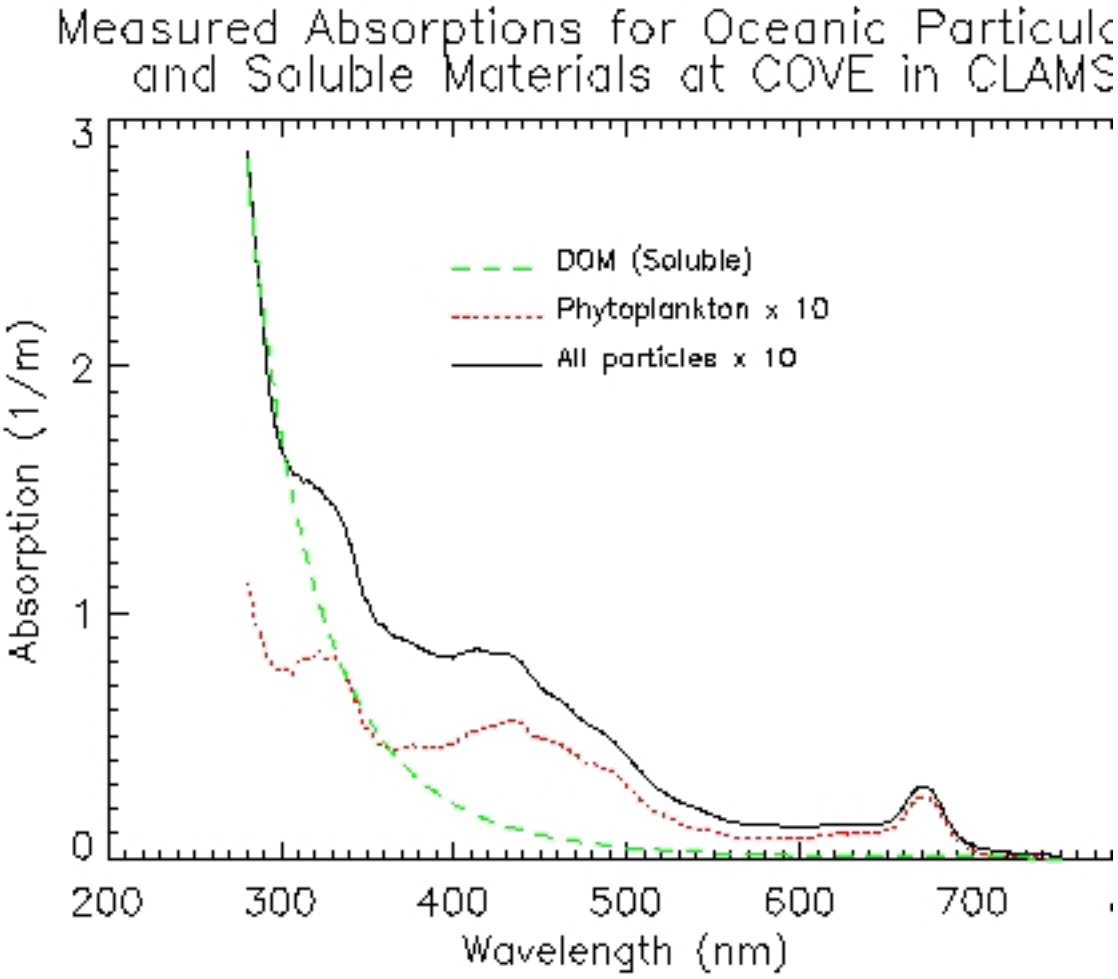
Target buoys far to sea (SeaWiFS Chlorophyll map) as well as COVE at the Chesapeake Lighthouse:



CV-580 nea
BRI
ER-2 at 20 l
AirM
Target buoy
winc

Measurements of ocean optics by Glenn Cota's group (Old Dominion University)




Measured Absorptions for Oceanic Particulc
and Soluble Materials at COVE in CLAMS
DOM (Soluble)
Phytoplankton x 10
All particles x 10
Absorption (1/m)
Wavelength (nm)
0
1
2
3
200
300
400
500
600
700

See pdf figures
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Given the high accuracy of CERES at TOA, surface albedo now poses as the primary uncertainty to assessments of TOA aerosol radiative forcing in clear conditions.